1. Minnesota's Health Care Landscape

Minnesota's total population is 5.2 million, making it the 21st most populous state in the United States. Approximately 450,000 Minnesotans are uninsured, and 24 percent are enrolled in public health insurance programs.

By state law, all Minnesota health plans must be non-profit organizations. The largest plans are HealthPartners, PreferredOne, Blue Cross/Blue Shield, and Medica.[1] Sixty-one (61) percent of Medicaid beneficiaries receive their care through one of nine health plans. Twenty-nine (29) percent of all Medicare beneficiaries are enrolled in a Medicare Advantage plan.

The provider landscape includes 131 hospitals, 88 rural community health centers, and 14 Federally Qualified Health Centers. In 2008, Minnesota had 17,702 non-federal physicians, of which 7,198 were general practitioners.[2]

There are approximately 174 clinical laboratories in Minnesota, of which approximately 11% are able to use current standards for electronic exchange. At least eight Minnesota labs are reporting electronic data on communicable disease surveillance. Modernization will require improving interoperability and exchange using HL7, LOINC, SNOMED and other standards.[3]

Minnesota's adoption of electronic health records (EHRs) exceeds that of most states. According to a 2007 statewide EHR survey by Stratis Health, Minnesota's Medicare Quality Improvement Organization, 64 percent of adult primary care practices have either fully implemented or are in the process of implementing EHRs.[4]

With respect to payment reform, Minnesota Statute §256B.0751 directs the Minnesota Department of Health (MDH) and Department of Human Services (DHS) to develop and implement certification standards for health care homes (i.e., Patient Centered Medical Homes) for state health care programs. On July 6, 2009, the MDH and DHS published a proposed rule to develop and implement standards that facilitate consistent and ongoing communication among the health care home and the patient and family and provide the patient with continuous access to the patient's health care home.

[1] Source: Minnesota State Department of Health
[2] Kaiser Family Foundation. *State Health Facts*. Available online at http://www.statehealthfacts.org/ and accessed on December 9, 2009.
[3] Minnesota State HIE Cooperative Agreement application. Available online at: http://www.health.state.mn.us/e-health/hitech/ht101409mn3013app.pdf.
[4] Stratis Health. "2007 EHR survey." February 2007.

2. Minnesota's State-Level HIE Efforts

Background

In 2005, the Minnesota Department of Health convened the Minnesota e-Health Initiative Advisory Committee. A public-private collaborative consisting of 25 appointed members, the Minnesota e-Health Initiative is working to accelerate the use of health IT to improve healthcare quality, increase patient safety, reduce costs, and enable individuals and communities to make the best possible health decisions. The Committee currently consists of representatives from key stakeholders, including health care providers, payers, public health professionals, and consumers.

To leverage health IT to advance its health care goals, Minnesota enacted three mandates:

- ***Interoperable EHR Mandate***. In 2007, the Governor signed the first e-health mandate: "By January 1, 2015, all hospitals and health care providers must have in place an interoperable electronic health records system within their hospital system or clinical practice setting. The commissioner of health, in consultation with the Minnesota e-Health Advisory Committee, shall develop a statewide plan to meet this goal, including uniform standards to be used for the interoperable system for sharing and synchronizing patient data across systems."

- ***Administrative Transactions Standards Mandate***. The second mandate enacted in 2007 (Minnesota Statutes, section 62J.536) requires all health care providers and group purchasers (payers) to electronically exchange three administrative transactions using a single, standard data content and format: (1) eligibility and benefit information; (2) claims; (3) payment remittance advices. The rules apply to an estimated 60,000 physicians, hospitals, dentists, chiropractors, pharmacies, and other health care providers providing services in Minnesota, as well as over 2000 insurance carriers and Third Party Administrators (TPAs) licensed or doing business in the state, and other payers.

- ***e-Prescribing Mandate***. In 2008, a third mandate was signed into law and will become effective January 1, 2011. The mandate requires all providers, group purchasers, prescribers, and dispensers must establish, maintain, and use an electronic prescription drug program. This program must comply with the applicable standards for transmitting, directly or through an intermediary, prescriptions and prescription-related information using electronic media. (Minnesota Statutes, section 62J.497).

On October 16, 2009, the Minnesota Department of Health's Office of Health Information Technology submitted a State HIE Program application to the US Department of Human Services for $10.8 million to advance Minnesota's *e-Health Connect Project*.[5] The *e-Health Connect Project* will build upon and integrate technical, operational, policy, legal and business infrastructure already developed through the investment of public and private stakeholders in Minnesota.

[5] The application is available online at http://www.health.state.mn.us/e-health/hitech/ht101409mn3013app.pdf.

The Minnesota e-Health Connect project will build upon the Minnesota e-Health Initiative's efforts to accelerate the adoption and use of health information technology through adoption of standards for health information exchange, privacy and security policy development, and support of providers in achieving adoption and effective use.[6]

Minnesota Proposed Approach to Health Information Exchange

"Minnesota will advance its goals of transforming health care and improving the health of Minnesotans through an integrated statewide approach to health information exchange that will facilitate and expand the secure, electronic movement and use of health information across the continuum of care according to nationally recognized standards."

Minnesota will advance patient centered HIE that will:

- Provide Minnesotans with access to coordinated care each time they access the health care system, across the continuum of care.

- Elevate the health of all Minnesotans by facilitating essential communications that support improvements in community and public health.

- Ensure that adequate protections are in place to maintain patient privacy, while enabling secure access to all of the information necessary to deliver the best possible care.

- Empower Minnesotans with the information they need to work with their providers to achieve the best possible health outcomes.

- Serve the citizens of Minnesota as a public good.

The need for secure exchange of health information essential to transforming health care and improving the health of Minnesotans must supersede technical, business, and bureaucratic barriers.

Health information exchange must initially provide for the functionality necessary to support meaningful use, and expand over time to provide for continuous improvement in quality and coordination of care.

Governance Framework

The MDH Office of Health Information Technology is the State agency charged with leading the Minnesota e-Health Initiative, and has been designated by Governor Pawlenty and the Minnesota Legislature to oversee Minnesota's State HIE Cooperative Agreement Program.

In addition, MDH is the lead agency responsible for policy development surrounding Minnesota health reform efforts. MDH's primary function is to carry out the State's commitment to public health and employs a variety of programs and strategies in the pursuit of its mission to protect, maintain, and improve the health of all Minnesotans.

[6] In 2008, the Minnesota Department of Health released a statewide implementation plan for interoperable EHRs: http://www.health.state.mn.us/e-health/ehrplan.html.

Supporting the MDH is the Minnesota e-Health Initiative, a public-private collaborative, established in 2004 under the direction of the Commissioner of Health and guided by a legislatively-chartered Minnesota e-Health Advisory Committee. The Committee consists of 25 members representing a broad range of stakeholders charged with advising the Commissioner on matters related to e-health.

This would include the creation of a certification process for health information organizations, and a registration process for health data intermediaries to ensure sound practices in the five critical domains: governance, finance, legal/policy, technical infrastructure, and business and technical operations.

The Minnesota e-Health Advisory Committee makes recommendations to the Commissioner of Health on policies and strategies that:

- **Empower Consumers** with information to make informed health and medical decisions;
- **Inform and Connect Healthcare Providers** so they have access to the information and decision support they need;
- **Protect Communities** with accessible prevention resources, and rapid detection and response to community health threats; and
- **Enhance the Infrastructure** necessary to fulfill the e-Health vision.

Committee Charge
The e-Health Advisory Committee provides recommendations to the Commissioner of Health on achieving the vision of the e-Health Initiative. The Commissioner is ultimately responsible for deciding final state policy and implementing this policy consistent with existing MN law.

Consistent with its statutory responsibilities, the e-Health Advisory Committee supports the implementation of the statewide plans for interoperable EHRs by:

- Developing policies and identifying practical tools and information resources to ensure:
    - Adoption and effective use of interoperable EHR systems, including adequately trained staff, clinical decision support systems, quality improvement and population health.
    - Identification of specific standards for sharing and synchronizing patient data across interoperable EHR systems and across the continuum of care.
    - Adoption and implementation of electronic prescribing by all health care providers, group purchasers, prescribers, and dispensers.

- Advising as needed on special projects and activities including:
    - Assessing the status of EHR adoption, effective use and interoperability in private and public settings.
    - Implementing and continuously refining the Minnesota e-Health Communications Plan, with emphasis on engaging professional and trade associations.
    - Ensuring strong privacy protections that safeguard patient's health information and increase consumer confidence during the identification of standards and implementation of electronic prescribing policies.

- Accelerating the adoption of EHRs in long term care & public health.
- Engaging consumers in e-health.

In December 2009, the Advisory Committee recommended the creation of a state HIE oversight board that would be responsible for:[7]

- **Protecting the public interest** as it relates to HIE:

  1. Ensuring that state-certified Health Information Organizations (HIOs) and state-registered Health Data Intermediaries (HDIs) are **acting in a manner consistent with the public good** characteristics of HIE and best practices.
  2. Ensuring that state-certified HIOs and state-registered HDIs **meet and maintain all state criteria** for certification/registration.
  3. Ensuring that health information exchange services are **available and adequate to meet the needs** of Minnesota citizens and providers statewide.
  4. Utilizing appropriate enforcement mechanisms to **compel entities to act in the public interest.**

- Periodic **review and update criteria** for certification and registration of entities offering health information exchange services.

- Maintaining an **open and transparent** discussion and decision-making process and mechanisms to receive public input.

- Providing a mechanism to **process complaints** related to HIE services.

Additional Recommendations:

- The composition of the oversight body should **broadly represent stakeholders**, including consumers.

- Enforcement mechanisms must be **adequate to compel corrective action without causing a disruption in services**.

- Reporting requirements must be **comprehensive** in addressing the activity within the scope of the oversight body and should be **completed on a regular schedule, and publicly available**.

- Meetings must be held on a **regular schedule, and open to the public**.

[7] The preliminary descriptions and recommendations on the Minnesota framework for health information exchange and criteria for state-certification of HIOs were approved by the Minnesota e-Health Advisory Committee on December 9, 2009, and are being released for a 30-day public comment period. The framework is available online at http://www.health.state.mn.us/e-health/hitech/ht121409hierecs.pdf.

- Board should be established under the direction of the Commissioner of Health, with provisions to **ensure coordination with other appropriate agencies**, particularly DHS.

- Registration and certification fees should be established **at a level that provides funding sufficient to cover costs associated with state oversight**.

Minnesota e-Health Advisory Committee Workgroups
The Advisory Committee has established four workgroups charged with providing recommendations for the state's strategic and operational plans for HIE:

- **Standards and Interoperability**: Standards (clinical operations, clinical quality, privacy and security); Interoperability, Interfaces, Health Information Exchange
- **Privacy and Security**: Federal and State Privacy Law, Health Information Technology, Security, Standards
- **Outreach and Communications**: Health Care Associations, Health Care Organizations, Providers, Consultants, Communications Professionals and Consumers
- **Exchange and Meaningful Use**: Health Information Exchange, Health Information Technology, Standards

In addition to stakeholder members, each workgroup is assigned staff support.[8]

Privacy and Security Approach

The MN eHealth Initiative has launched a comprehensive statewide analysis of the privacy and security considerations for HIE, specifically through two subcommittees focused on privacy and security: the Patient Consent Subgroup and the Authorization, Authentication, Access Control and Auditing Subgroup.

Currently, the MN e-Health Initiative Privacy and Security Work Group serves as a standing body to review policies and offer guidance to emerging HIEs in Minnesota regarding privacy and security. This workgroup serves in a reactive capacity as an advisory group that responds to HISPC-related questions and that gives feedback to the MN e-Health Initiative (and other workgroups) as privacy-related issues arise. However, the workgroup has not been tasked with proactively creating statewide privacy and security policies and procedures.

Minnesota requires that participants in HIE abide by the rules for electronic exchange laid out in the Health Records Act. However, local exchanges have all developed their own unique consent forms and detailed consent processes to meet state statutory requirements (and applicable federal requirements) around privacy. Minnesota law requires written consent even for purposes of treatment, with exceptions existing only for medical emergencies and for disclosures among facilities within an integrated care system. Patient consent generally expires within one year.

[8] For more information on the state's workgroups, each workgroup's charge, recent accomplishments and participants: http://www.health.state.mn.us/e-health/wgshome.html.

The Minnesota Health Records Act makes a distinction between "one-to-one" and "many-to-many" exchanges of health information.

Within a health system or for uses where data exchange isn't facilitated through a Record Locator Service (RLS), authorized participants can exchange information in compliance with federal and state laws. For "many-to-many" exchanges, i.e., data exchange enabled through a RLS, participants must comply with applicable HIE consent requirements and policies. The Minnesota DOH does not directly regulate how HIEs set up the specifics of their consent policies and related consent forms outside of the requirement that whatever they create must comply with relevant laws. Further, while the Minnesota DOH provides guidance, information, and technical assistance to assist local exchanges in complying with statutory requirements, it does not confirm or certify that the processes they implement are in compliance.

Developing privacy policies through the 2007 statute served several purposes. In the original Health Records Act, terms were not well-defined; consent-related requirements were not readily applied to the electronic exchange of information; and a need existed to update and re-codify the Act in order to facilitate electronic exchange.

The revised Minnesota Health Records Act defined requirements for new and existing terms and concepts in order to account for the electronic exchange of health information. These terms included health record, medical emergency, health information exchange, record locator service, and authorized "representation of consent."

Technical Model

In accordance with a legislative mandate, the Minnesota's Commissioner of Health developed a set of standards for statewide interoperability. The standards, which are consistent with federal interoperability standards, were released in January 2009.

Minnesota Health Information Exchange (MN HIE) is the entity providing statewide HIE services.[9] The MN HIE is a public/private partnership between hospitals, insurance companies and the Minnesota Department of Human Services. The MN HIE is a non-profit organization governed by a six member Board of Managers including representatives from the Department of Human Services, Blue Cross Blue Shield of Minnesota, Fairview Health Services, HealthPartners, Medica, and UCare. Each of the founding members is an investor in the MN HIE and is also a subscriber to the exchange. New participants have the option of becoming a subscriber or a member/subscriber.

The Governor announced the state's participation when the project was unveiled in 2007 and in 2008, the Minnesota Legislature passed a bill authorizing the Minnesota Department of Human Services to participate as a sponsor in this private-public partnership.[10]

[9] More information available online at http://www.mnhie.com/.
[10] Source: www.governor.state.mn.us/mediacenter/pressreleases/2007/.

The State CIO is monitoring MN HIE activities to assure compliance with state statute and the Governor's health information technology objectives.[11]

Currently, the MN HIE provides access to a patient's medication history for the past 12 months upon patient consent. Future services will include real-time access to e-prescribing, lab results, immunization records and other vital medical information, and transmission of CCD record and patients' data to a PHR of their choice.[12]

Financing

ARRA/HITECH

Minnesota is eligible to receive $9.6 million in grant funding through the State Health Information Exchange Cooperative Agreement Program, funded through stimulus dollars and administered by the Office of the National Coordinator for Health Information Technology (ONC).

The state expects between $450-650 million in meaningful use incentives from CMS to be paid out to hospitals and eligible providers in the state beginning in 2011 as part of the HITECH Act. The state is also projecting between $7-9 million from ONC will support Regional Extension Center efforts in Minnesota.

e-Health Grant Program

Beginning in 2006, the State of Minnesota appropriated funding to support the planning or implementation of interoperable EHR systems, related applications, and health information exchange. Eligible applicants for competitive grants include community e-health collaboratives, community clinics, and regional or community-based health information exchange organizations. Funding is targeted to rural and medically underserved areas. Eligible applicants for EHR loans include small rural hospitals, community clinics, primary care clinics in towns with population under 50,000, nursing facilities and other health care providers.

The e-Health Grant Program made two types of grants available to eligible providers. Both types require a one-to-three match:

- Planning grants of up to $50,000 to: assess business and clinical needs for an EHR system, define requirements, re-engineer clinical and administrative workflows to gain efficiencies, determine how it will be paid for and sustained, review candidate EHR software systems, and select a system. These grants are aimed at supporting providers and hospitals at the beginning of adoption.

- Implementation grants of up to $750,000 to: implement an EHR to maximize clinical and administrative value, optimize clinical decision support tools to improve quality,

[11] Unlike the other investors in MN HIE, the State government is permitted to withdraw from the organization without penalty if the State's budget circumstances warrant.
[12] Based on interview with Mike Ubl, Executive Director of MN HIE, on June 2, 2009.

and prepare for and engage in electronic health information exchange. Implementation grants can support activity across the EHR adoption continuum, in the adoption, use and exchange phases.

A primary goal of the program is to support EHR adoption in community health clinics and Federally Qualified Health Centers. If a clinic has neither of these designations, it must be part of a community e-health collaborative that was formed with the ultimate goal of HIE in mind. A remarkable finding through this program is that clinics, that want to access funds for EHRs are willing to do the hard work of forming community collaboratives with organizations that are often competitors for providing services in the community.

EHR Revolving Loan Program

MDH administers a six-year no-interest EHR revolving loan program to assist in financing the installation or support of interoperable electronic health record systems. Total funding of $6.3 million for fiscal years 2008-09 is available on a first-come, first-served basis to eligible applicants, including community clinics, rural hospitals, medical clinics in towns with population under 50,000, nursing facilities, and other health care providers or services. As with grants, loan applicants must clearly state their plans for achieving interoperability with other providers.

3. Minnesota's Regional Health Information Organizations (RHIOs)

The table lists Minnesota's RHIOs and their operational status.

Name	Location	Stage[13]
Community Health Information Collaborative (CHIC)	Duluth	5
Community-Shared Clinical Abstract to Improve Care	Minneapolis	2
Neighborhood Health Care Network	St. Paul	3
Northern Minnesota Network	Isanti	3
HIT Strategic Plan of SW Minnesota Health Providers	Granite Falls	3
Winona RHIO	Winona	3

[13] This analysis utilizes the eHealth Initiative's RHIO and HIE implementation scale. Relevant stages include:
Stage 2: Getting organized; defining shared vision, goals, and objectives
Stage 3: Transferring vision, goals and objectives to tactics and business plan
Stage 4: Well under way with implementation -technical, financial and legal
Stage 5: Fully operational; transmitting data
Stage 6: Fully operational; transmitting data and have a sustainable business model
Stage 7: Expansion to encompass a broader coalition of stakeholders